IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
V.	)	No. 05-CV-329-GKF-SAJ
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

REPORTER'S TRANSCRIPT OF PROCEEDINGS

FEBRUARY 21, 2008

PRELIMINARY INJUNCTION HEARING

VOLUME III

BEFORE THE HONORABLE GREGORY K. FRIZZELL, Judge

APPEARANCES:

For the Plaintiffs: Mr. Drew Edmondson
Attorney General
Mr. Robert Nance
Mr. Daniel Lennington
Ms. Kelly Hunter Burch
Mr. Trevor Hammons
Assistant Attorneys General
313 N.E. 21st Street
Oklahoma City, Oklahoma 73105

Glen R. Dorrough
UNITED STATES COURT REPORTER

VALERIE J. HARWOOD

Called as a witness on behalf of the plaintiffs, being first duly sworn, testified as follows:

THE COURT: State your full name for the record, please.

THE WITNESS: Valerie J. Harwood, PhD.

THE COURT: Thank you. Mr. Page, you my inquire.

MR. PAGE: Good morning, Dr. Harwood.

DIRECT EXAMINATION

BY MR. PAGE:

Q. Good morning, Dr. Harwood.

A. Good morning.

Q. Would you please tell the Court where you are employed?

A. Yes, University of South Florida, department of biology.

Q. And what do you do at the University of South Florida?

A. I'm a tenured associate professor. I have a research laboratory that includes seven PhD students and a master's student and two technicians. And the research that I conduct in that laboratory pertains to microbiological water quality and microbial source tracking and other aspects of microbiological water quality.

Q. How do you divide your time amongst your various responsibilities at the university?

A. My appointment is 55 percent teaching, 40 percent research and 5 percent service. I generally teach one undergraduate or

Mr. Page.

MR. PAGE: Thank you, Your Honor.

Q. (By Mr. Page) Dr. Harwood, back to Exhibit 433. This is simply a summary of Oklahoma and U.S. EPA standards as they apply to recreational water quality uses; correct?

A. That is correct.

Q. That's bathing, swimming, splashing in the water; correct?

A. Right, correct.

Q. And I want to make sure this is clear. If someone is in water, bathing or swimming or splashing in the water, and the bacteria, any of those three bacteria, are at or above those levels, what does the EPA say about the expected sickness rate?

A. The EPA's guidelines and epidemiology studies and other epidemiology show that there is an increased risk of illness as levels above those standards rise. And the specific illness upon which most of these studies are based is gastroenteritis, so vomiting, diarrhea, nausea, cramps.

Q. How many people will get sick?

A. If the standards are right at that level, that's expected to be 8 individuals per thousand recreational water users and then it will go up from there. For example, if the E. coli concentrations increase about tenfold from this standard, then it's expected that the chance of getting ill will double.

Q. Thank you, Doctor. Now I'd like to turn your attention to State's Exhibit 434. Again, we have a blow-up on the tripod

consider high risk. And for example, poultry feces contain -- are known to very frequently contain Salmonella and Campylobacter. These are so-called zoonotic pathogens which means that they're inhabitants of the animal gastrointestinal tract but they cause disease in humans. And in fact, Campylobacteriosis and Salmonellosis are among the most prevalent of both waterborne and foodborne diseases.

Q. Both Campylobacter and Salmonella, are they both present in poultry waste?

A. Yes, they are.

Q. What about E. coli, is that also a zoonotic bacteria?

A. Well, the pathogenic forms of E. coli are, such as E. coli 0157:H7R, yes, zoonotic forms as well.

Q. I'd like now to draw your attention to State's Exhibit 437. Dr. Harwood, could you identify this exhibit for the Court, please?

A. Yes, this exhibit is a graph that was prepared from data that was collected in the IRW from 2005 to 2007. And it shows the relationship between E. coli concentrations on the vertical axis and fecal coliform concentrations on the horizontal axis. And what this graph shows is that he relationship between fecal coliforms and E. coli in the vast majority of the IRW samples is nearly equivalent and very linear with a slope of about one. And so these are highly correlated. And with this sort of information then, we can feel comfortable about applying the